

A METHOD AND CIRCUITRY FOR HIGH POWER AMPLIFIERS WITH
VOLTAGE CONVERSION TO AVOID PERFORMANCE DEGRADATION,
SYSTEM SHUTDOWN AND PERMANENT DAMAGE
IN CASE OF WORST CASE DATA PATTERN

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ABSTRACT OF THE DISCLOSURE

10 A power amplification system for wireless communica-
15 tions monitors wireless signal sequences for worst case or
20 problematic data patterns likely to cause the output
voltage of a voltage converter supplying the power
amplifier to drop. The signal sequences, which may be data
within a single timeslot or data packet or across several
timeslots or data packets, are detected by monitoring data
patterns, either alone or in conjunction with monitoring
voltage, current, or a combination of voltage and current
drawn by the power amplifier. Upon detection of triggering
signal sequences, the output power level is reduced, either
digitally by dropping the output power one or more power
levels or in an analog fashion by reducing reference
voltages. Monitoring and control units may be included
within the voltage converter, the power amplifier, a
baseband modulator, and/or a transmission line-up unit.